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Spatial Models for Retail Credit

This presentation describes the use of disaggregated, regional data to develop and study models of retail credit risk. The data describe credit performance and macroeconomic characteristics for the 3000 counties within the US over 12 years. Regions naturally experience varied economic conditions; some counties in the US, for example, have more than 25% unemployment while others at the same time experience near full employment. The ample regional heterogeneity provides a natural stress-test of model performance. The performance of a model in localities with weak economies can substitute for looking far back in history to find periods of economic downturns. Models that appear to account for dependence over time and space may miss local patterns. Cross-validation of the accuracy of predictions is used to contrast national models to spatially adaptive models that describe regional patterns.